

Article

# State and Business Groups in the Space Industry

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## ABSTRACT

Space exploration is growing from cold war to present. Actors also began to change, not only developed state or developing state, but also industry. Industry offers more economical space exploration, which is driving the industry increasing. However, state remains primary party responsible for ensuring space exploration are peaceful purposes and beneficial to all mankind. Thus, need to analyze how state and business groups relationships in the development of the private space industry. The method to be used in this research is content analysis related to governed interdependence. The analysis will use source data in the form of journals, books, and media information about the development of space industry by the state and business groups that influence it in political economy. From the analysis results know that the pattern of relationship between countries and groups in the development of space industry is interdependence to develop a world class strategic industry. This paper is important in the development of international political economy concept.

## ABSTRAK

Eksplorasi antariksa terus berkembang dari perang dingin hingga sekarang. Begitu pula aktornya, tidak hanya negara besar atau berkembang tetapi juga industri. Industri menawarkan eksplorasi antariksa yang bersifat lebih ekonomis, sehingga mendorong industri ini semakin meningkat. Namun, negara tetap menjadi pihak utama yang bertanggung jawab menjamin eksplorasi antariksa bertujuan damai dan bermanfaat bagi seluruh umat manusia. Dengan demikian, perlunya analisis bagaimana hubungan negara dan kelompok bisnis dalam pengembangan industri antariksa swasta. Tulisan ini menggunakan metode *content analysis* yang menggambarkan mengenai hubungan negara dengan kelompok bisnis menurut teori *governed interdependence*. Analisis menggunakan sumber data berupa jurnal, buku, dan media informasi mengenai upaya pengembangan industri antariksa oleh negara dan kelompok bisnis beserta faktor yang mempengaruhinya dalam ekonomi politik. Dari hasil analisis diketahui bahwa pola hubungan negara dan kelompok bisnis dalam pengembangan industri antariksa bersifat saling ketergantungan dalam membangun industri strategis berkelas dunia. Tulisan ini diharapkan menjadi pengembangan konsep ekonomi politik internasional.

## Introduction

Industry is an inseparable party in the development of the country. Industry plays a role in improving the country's economy through the absorption of labor and state income from foreign exchange of industrial products exports.<sup>1</sup> In addition, the industry also has a strategic nature that includes ways to achieve overall and long-term goals and interests. Strategic industry is defined as an industry that is considered by the government as very important for the economy or state security.<sup>2</sup> An example of a strategic industry is a high-level technology industry, namely the space industry because it can guarantee the security and welfare of the country. Thus, the importance of developing a strategic industry in this case the space industry to become a strong country.

Space technology provides greater benefits for human life. So the space industry increasingly encourages the development of the nation so that it is more strategic.<sup>3</sup> The greatest benefit in the field of information and communication technology, which can be felt by all levels of society. So, more and more countries are trying to take advantage of their orbital slots for telecommunications satellites. However, the country has difficulties in mastering space technology coupled with large budgetary needs. Therefore, business groups see this opportunity by developing the space industry.

The space industry developed can be public or private. Private industry is superior because it aims at achieving the highest profit. Thus, the private space industry is efficient so that the competitive value of the space industry is increasing. This, put pressure on the state in the development of space exploration that is too much of the state budget. Therefore, countries eventually use the services of the private space industry, including the United States. Thus, the private space industry also generates greater profits every year.

Large investments are needed in this industry. This industry also gains long-term benefits. However, this industry is a strategic industry that should be developed by the state because it can benefit the country's politics and economy. As with international law, this industry is also the responsibility of the country where the industry is located. This, in ensuring the security and safety of space activities that are peaceful and beneficial for humanity. In addition, the state is indeed obliged to provide security guarantees for industrial operations in the country.

The space industry plays a role in the country's economy. First, it provides a more efficient budget use option in space exploration. Second, providing income to the state in the field of services and commercialization of space technology. Third, it facilitates the state's access to the use of space technology or as a vehicle for industrial transformation through technological mastery.<sup>4</sup> So, economically the country can grow more. Thus, the space industry is positive for the country so that the potential for development by the state is quite large.

The role of the space industry is also large in politics. Given the beginning of its development was a political rivalry of the

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<sup>1</sup> Jurnal Nasional, "Maju Mundur Industri Strategis." Retrieved June 3, 2018, from <http://www.kemenperin.go.id/artikel/4795/Maju-Mundur-Industri-Strategis>

<sup>2</sup> BINUS, I. "Industri Strategis di Persimpangan Jalan." Retrieved June 3, 2018, from <http://ir.binus.ac.id/2015/10/08/5306/>

<sup>3</sup> Prasetyono, A. P. "Industri Strategis Faktor Utama Pendorong Pembangunan Ekonomi." Retrieved June 3, 2018, from <https://ristekdikti.go.id/industri-strategis-faktor-utama-pendorong-pembangunan-ekonomi/>

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<sup>4</sup> Sampurno-Kuffal, F. H. *Keruntuhan Industri Strategis Indonesia*. (Jakarta: Khazanah Bahari, 2011)

United States and the Soviet Union. So, the country that masters this technology has a bargaining position in global politics. In addition, also get socio-economic benefits from mastering space technology. Thus, the existence of the space industry enhances the country's political position in the international system.

Based on the economic and political role, the importance of the space industry is felt. The space industry produces competitive values that can develop space technology with economical costs. The space industry provides access to the use of space technology that can increase the bargaining power of the country. The space industry with state support can get higher profits. Thus, there is a relationship between the state and business groups in the mutualism space industry. As the iron triangle concept of US President Dwight Eisenhower in 1961, explained in his speech there was a collusion between US institutions and industry called the government industrial complex.<sup>5</sup>

Therefore, this paper attempts to answer how the state and business groups relate to the development of the private space industry? By juxtaposed the two actors.<sup>6</sup> Then, focusing on the private space industry in China. China's private space industry can represent the development of the private space industry in developing countries. China's private space industry is increasingly attractive because it is a new industry, but has shown significant progress.

Research on the relationship of the state and business groups in the development of the space industry has not yet been carried out. Existing research related to the space industry regarding knowledge management in the space

industry.<sup>7</sup> The study explained the importance of knowledge management for the space industry which not only focuses on technology but also on culture, human resources, and processes. In addition, further research on the space industry is a strategic source.<sup>8</sup> The study explains the mistake of positioning the industry as a strategic source will lead to disintegration. Supply chains that reduce long-term competitive value. Whereas state relations research and business groups have been carried out so as to produce many concepts of state and business group relations models.<sup>9</sup> Some of the concepts that have been common, among others: mutualism cooperation, alliances, until only an opportunity. Thus, this paper aims to analyze the relationship between the state and business groups in the development of the space industry, using the concept that is still rare, namely the concept of interdependent relationships.

This paper is divided into five major sections. The first part becomes an introduction that implicitly consists of the background of the problem, problem formulation, literature review, and writing systematics. The second part explains about research method. Furthermore, in the third part, the presentation of empirical data on the development of China's private space industry. The fourth section describes how the type of relationship governed interdependence between the Chinese government and its business group in

<sup>5</sup> BINUS, "Industri Strategis di Persimpangan Jalan."

<sup>6</sup> Babic, M., Fichtner, J., & Heemskerk, E. M. (2017). "States versus Corporations: Rethinking the Power of Business in International Politics. The International Spectator," 52(4), 20–43.

<sup>7</sup> Olla, P., & Jeanne, H. "The role of knowledge management in the space industry: important or superfluous?" *Journal of Knowledge Management*, 10 "(February, 2006), 3–7,

<sup>8</sup> Rossetti, C., & Choi, T. Y. On the dark side of strategic sourcing: Experiences from the aerospace industry." (Academy of Management Perspectives, 2005), 19(1).

<sup>9</sup> Lang, A., & Tenbücken, M. "IPSA World Congress, Section 38 – Business and Politics. In *State Business Relations: Mapping the Theoretical Landscape*" (pp. 1–35). (Fukuoka: David Coen, Fukuoka, Japan, 2006).

building the private space industry. Then the last part is the conclusion.

### Research Method

This paper used qualitative research. This research emphasizes words rather than quantification in the collection and analysis of data.<sup>10</sup> Qualitative research as a means for exploring and understanding the meaning individuals or groups ascribe to space industry. The process of research involves emerging questions and procedures, data typically collected in the literatures setting, then data analysis inductively building from particulars to general themes. Then, finally make interpretations of the meaning of the data. This research gives role of the researcher for validity strategies in data collection and analysis. And also, guarantee the accuracy of findings and narrative structure.

This paper used case study approach, so the researcher might explore processes, activities, and events. This approach interconnected themes into a story line. By this approach, data collections include setting the boundaries for the study. The collecting information did by through semi-structured documents. Then, it processed by recording, identifying and classifying data relevant to the subject matter and the use of theory. Data and information gathered related to state and business groups relations in space industry. Data and information are then analyzed by describing the phenomenon being studied and then to interpret the phenomenon.

The technique of analysis case study research involved a detailed description of the setting or individuals, followed by analysis of the data for themes or issues. Validating the accuracy of the information by several steps; organizing and preparing data from documents; coding the data by

read through all data; interrelating themes by case study approach; interpreting the meaning of themes. The interpreting did by analyzing the form and substance using the governed interdependence theory so that will be obtained the meaning contained in it.

Data collection techniques used is the method of literature that is through various references to both scientific journals, books, and other relevant sources. The library references were obtained from the China National Space Agency (CNSA), internet and library sites. In this paper will be more focused to answer the problem formulation by using factor indicators of the interdependence relationship in the case of space industry according to realism approach. The scope of the discussion divided into four types of relationships which can be divided into two in outline; pioneered by the state or spearheaded by business groups. This paper uses data from books, journals, and other relevant information media. By using case study research analysis methods that explain factors in interdependence relationship in various types relationship based on pioneered in realism view.

### Result and Discussion

The Chinese space program is one of the most complicated and not transparent in the world so that the explanation of the organization and its bureaucratic structure will be quite difficult.<sup>11</sup> Based on historical records, it turned out that China in the Song Dynasty in the 1200th century had begun rocket inventions.<sup>12</sup> The Chinese space

<sup>10</sup> Creswell, J. W. "Research Design: Qualitative, Quantitative, and Mixed Method Approach (Third Edit)." (Los Angeles: SAGE Publication Inc, 2009)

<sup>11</sup> Aliberti, M. "China 's Space Programme : An Overview." In *When China Goes to the Moon* (pp. 17–22). (Switzerland: Springer International Publishing, 2015)

<sup>12</sup> Ebeling, P. "China's Space Program: How cooperation between China and Europe changes as China's space program advances." (Leiden University, 2016)

program<sup>13</sup> began to get foreign assistance, namely from the Soviet Union in the late 1950s. Then, it continued with the development of communications satellites in 1975. Under Deng Xiaoping's administration, the Chinese space program focused on geo-synchronous communications satellites, which were successfully launched on April 8, 1984 using Long March 3. However, China's first satellite was launched in April 1970, which making China the fifth country in the world that can launch satellites and orbit the earth. In 1986, the status of the space program was the highest priority. In the 1960s, China tested small and medium rocket launches. In the 1970s, China tested inter-continental rocket launches. Then in May 1980, finally China was able to launch intercontinental rockets.

China shares in the development of space programs. Research and development of rocket technology is the responsibility of the Chinese Academy of Space Technology (CAST). Meanwhile, China Academy of Launch Vehicle Technology (CALT) is tasked with developing space launch stations. At present the development of rockets is under the Ministry of Aero-Space Industry (MAI). In 1993, two institutions were formed under the MAI. First, China Aerospace Science and Technology Corporation (CASC) as the main contractor of the Chinese space program. Second, China National Space Administration (CNSA) as China's national space agency, which is responsible for the national space program and plans and develops space activities. Under these two institutions, there are several other institutions with specialization of duties in the Chinese space program. China Satellite Launch and TT & C General (CLTC) are responsible for launch and telemetry stations. China Academy of Space Technology (CAST) is

<sup>13</sup> Acuthan, J. P. "China's Outer Space Programme : Diplomacy of Competition or Co-operation?" (China Perspectives, 2016) 63.

developing Chinese satellite applications with a focus on remote sensing, communication, space exploration.

China entered the international satellite launch market since 1990.<sup>14</sup> Furthermore, China also entered the study of high capacity communication satellites, multipurpose earth resource satellites, broadcast satellites, and earth stations. So the Chinese space policy, among others: the development of the entire type of satellite application system project, the construction of space stations, launch vehicles, and space transportation systems. According to Xie Mingbao, director of the China Manned Space Engineering Office, China spent 18 trillion yuan or about 2.2 trillion US dollars in the development of five Shenzhou series spacecraft. However, annual spending on the Chinese space program is difficult to determine. Joan Johnson-Freese, US Naval War College, estimates that China spends 1.4-2.2 trillion US dollars every year in its space program. With all its achievements, China is only one step behind the United States, among others: experience, expert team and resources, a regime that continues to support becoming a dominant space power. However, the last factor has been owned by China in the leadership of Xi Jinping.

China assesses the development of space activities as an important thing to improve national prestige, influence and defense, and to promote domestic industry and increase its economy again.<sup>15</sup> Exploring the vast universe, developing space programs and becoming an aerospace power has always been the dream we have been striving for, President Xi Jinping said on China's first space day on April 24,

<sup>14</sup> Acuthan, J. P. "China's Outer Space Programme : Diplomacy of Competition or Co-operation?"

<sup>15</sup> Acuthan, J. P. "China's Outer Space Programme : Diplomacy of Competition or Co-operation?"



2016.<sup>16</sup> Commemorating China's first satellite launch, Dong Fang Hong I, which reached orbit in 1970. In 2018, China aims to send explorer robots on the dark side of the Moon and land the taikonout on the Moon in 2036. One of the challenges is other than technical, environmental and international situations, namely public opinion regarding economic weakness.

Then the presence of the private space industry is an alternative in facing public opinion regarding economic weakness. The Chinese government seeks to increase China's economic growth through the commercialization of space technology products and services.<sup>17</sup> In 1990, China became a major provider of commercial launch services. From 1990 - 1999, China was able to launch 30 satellites belonging to other countries. In an effort to integrate into the global space commercial mechanism, several policy documents were created. The documents include: Aerospace Development 11th 5-Year Plan, National Guidance for Medium and Long-Term Plans for Science and Technology Development (2006-2020).

The industry offers the development of space technology with the principle of companies pursuing economic benefits. This, pushes the industry to produce more economical space technology. Although economical, the industry still guarantees the quality of its products, because it seeks to ensure its products are selected by the user. So, Robin Li Yanhong, inventor and President of Baidu saw the opportunity. He

submitted a proposal to the National People's Congress in 2014 to open the space industry for private investors.<sup>18</sup> He explained that the commercialization of the space industry is in line and accelerates the country's focus to become a space faring nations. He argued that with the presence of the space industry, Chinese space technology would be increasingly competitive. The proposal received positive answers from the government so that the government issued a policy to support China's private space industry as a national strategic priority in 2015 and put it in a white book of Chinese space activities in 2016. Thus, countries and business groups complement each other to achieve their respective goals -that.

Based on the white paper on China 's space activities 2016,<sup>19</sup> the purpose of Chinese space activities is to meet the demands of economic development, scientific and technological development, national security and social progress. The objective is carried out in principle; innovative development, coordinated development, open development, peaceful development, and national strategic development. So, China issued a policy promoting the transformation and upgrading space industries in all-around ways; accelerating satellite application industry; strengthening the legislative work; improve a diversified investment system. China aims to accelerate the development of the space industry because it will add to the strength of the country. So, China also increases the capacity of the

<sup>16</sup> Roxburgh, H. "China's Space Industry : Arriving At the Final Frontier." Retrieved May 18, 2018, from <http://knowledge.ckgsb.edu.cn/2017/11/21/technology/china-space-industry-final-frontier/>

<sup>17</sup> Cliff, R., Ohlandt, C. J. R., & Yang, D. "China's Space Capabilities. In Ready for Takeoff China's Advancing Aerospace Industry." (California: RAND Corporation, 2011). Retrieved from <http://www.jstor.org/stable/10.7249/mg1100ucescr.13%0AJSTOR>

<sup>18</sup> Chen, S. "Space the Final Frontier for Chinese Start-ups and Venture Capitalists." South China Morning Post Publishers Ltd. Retrieved from <http://www.scmp.com/news/china/article/1947369/space-final-frontier-chinese-start-ups-and-venture-capitalists>

<sup>19</sup> China, G. "White Paper on China's Space Activities 2016." Beijing.

country by making policies for China's private space industry.

The principle objectives of Chinese space activities are determined by status and function in safeguarding national interests and state development.<sup>20</sup> The principle objectives of Chinese aerospace activities are: space exploration, galactic and earth research, space use for peaceful purposes, enhancing human civilization, promoting economic growth, national security, developing science and technology, and building national strength comprehensively. In an effort to achieve this goal, China is industrializing and marketing technology and space applications. In this case, CASC was instrumental in reforming and developing the market, one of which was through the Aerospace Dongfanghong Satellite Co., Ltd, which was a company with joint funding of CASC and CAST. Plus, the China Great Wall Industry Corporation (CGWIC) is responsible for China's commercialization since the late 1980s.

Thus, China has an integrated, extensive and well-organized space exploration program.<sup>21</sup> The Chinese space program focuses on developing space capabilities for socio-economic purposes. Over the past two decades, China has also carried out space cooperation bilaterally, regionally, multilaterally and internationally, with various forms including commercial launch services. This is a supporting step for success in the international arena.<sup>22</sup> In the era of

globalization and information technology that requires state capacity to regulate the national economy,<sup>23</sup> industrialization and space corporations are hub areas. Increasing privatization, public-private participation and space tourism will be another important thing. History shows the fact that China has political will and technological capability in finding its own way towards developing deep space. Thus, China makes policies to support the state without weakening capabilities and the use of space technology.<sup>24</sup>

The governed interdependence developed by Linda Weiss, explains the strategic capacity of a field that does not weaken, let alone eliminate the autonomy of the state, but instead transforms it into a state capacity.<sup>25</sup> So according to the theory, cooperation between countries and strategic business groups is complementary to the power of the state. The state becomes an active actor in generating strategic trade and industry policies. The country coordinates economic transformation using institutional arrangements. One institutional arrangement instrument is a strategic industrial policy in which there is a governed interdependence relationship pattern. Governed interdependence explains the pattern of relations between the state and business groups through hand in hand coordination and cooperation. Economic projects are enhanced by public and private

<sup>20</sup> Acuthan, J. P. China's Outer Space Programme : Diplomacy of Competition or Co-operation? (China Perspectives, 2006). 63.

<sup>21</sup> Acuthan, J. P. China's Outer Space Programme : Diplomacy of Competition or Co-operation?

<sup>22</sup> Weiss, L. Global Governance , "National Strategies : How Industrialized States Make Room to Move under the WTO." Review of International Political Economy, 12(Mei: (2005), 723-749. Retrieved from <http://www.jstor.org/stable/25124049>

<sup>23</sup> Weiss, L, Introduction: "Bringing Domestic Institutions Back In. In States in the Global Economy Bringing Domestic Institutions Back In." (New York: Cambridge University Press. . 2003).

<sup>24</sup> Jiyuan, L, "Space for Development: Launch Services in China's Space Program. Harvard International Review," 16 (Maret, 1994), 36-37. Retrieved from <http://www.jstor.org/stable/42762044>

<sup>25</sup> Weiss, L, "Governed Interdependence: Rethinking the Government-Business Relationship in East Asia." The Pacific Review, 8(April, 1995), 589-616.

industries. However, its adoption and implementation are disciplined and supervised by the state. In this relationship pattern there are four types of relationships which can be divided into two in outline; pioneered by the state or spearheaded by business groups.

One of the strategic industries that the country continues to develop is the space industry. Space is seen as the Pole and the Deep Sea which uses it for all humanity. In the development of space technology, the state plays the main and dominant role to ensure the security and safety of space activities, including those conducted by non-state actors.<sup>26</sup> Thus, the activities of the space industry, both public and private, are the responsibility of the state to ensure its activities are peaceful and beneficial for all humanity. The space industry emerged driven by a global economic system that was increasingly interdependent, so that the state carried out economic transformation in funding the development of space technology. Through changes in funding that are not fixated on the state budget but also strategic industrial policies. In the beginning, this strategic industry only supported raw or upstream materials. However, along with globalization, this industry is increasingly downstream by offering commercialization of goods and services. The state sees it as an opportunity to further increase the power of the country. So, the state and business groups coordinate and cooperate. The state makes a policy of commercializing the space industry and oversees its implementation so that industrial economic projects increase.

China is one of the first countries to start developing space technology. However, the development does not go easily. However, China's considerable

achievement in space technology was finally achieved in 2003. In that year, China succeeded in firing anti-satellite (ASAT).<sup>27</sup> This is followed by subsequent achievements every year. China finally submitted a proposal to participate in the international space station project, but this was denied by the United States. This makes China choose to make its own space station. So the development of massive Chinese space technology has received international attention. However, China is open in its space technology development by issuing a white book of Chinese space activities. China's success to date in the development of space technology has made it equal to the United States and Russia.<sup>28</sup> China is able to show that as a developing country that despite facing a block of developmentalism in space technology, especially by the United States, China continues to develop its space technology.<sup>29</sup>

The mastery of Chinese space technology is the same as other developing countries, namely experiencing several obstacles. Constraints originating from domestic and international. The obstacles that arise from the nature of space technology are high tech, high cost, high risk. Plus there is no regulation regarding commercialization activities by the private sector.<sup>30</sup> So in its development as List said

<sup>27</sup> Acuthan, J. P. China's Outer Space Programme : Diplomacy of Competition or Co-operation? (China Perspectives, 2006) 63.

<sup>28</sup> Chen, S. (2017, June 12). Space the Final Frontier for Chinese Start-ups and Venture Capitalists. South China Morning Post Publishers Ltd. Retrieved from <http://www.scmp.com/news/china/article/1947369/space-final-frontier-chinese-start-ups-and-venture-capitalists>

<sup>29</sup> Acuthan, J. P. China's Outer Space Programme : Diplomacy of Competition or Co-operation?

<sup>30</sup> Dula, A. M. REGULATION OF PRIVATE COMMERCIAL SPACE ACTIVITIES. Jurimetrics, 23 (Februari, 1983), 156-189. Retrieved from <http://www.jstor.org/stable/29761822>

<sup>26</sup> Treaty, O. S. Treaty on principles governing the activities of states in the exploration and use of outer space, including the moon and other celestial bodies, Pub. L. No. 610 UNTS 205 (Washington, United States, 1967).



it must increase productive power.<sup>31</sup> However, in a global economic system that is interdependent, the country cannot be alone in facing these challenges. China in this case requires the support of the private space industry, as well as the private space industry needs state support to be able to develop more and generate large profits. In the case of China, business groups are proactive in giving proposals to the government so that the government issues a policy supporting the private space industry. Thus, business groups as pioneers in the country's cooperative relations and business groups in the development of the private space industry.

The government always strives to increase the capacity of the state to create prosperity for the community.<sup>32</sup> The government must side with domestic strategic industries, through various policies that are able to create a conducive climate for national industrial development. Government alignments are very important in the process of industrial revitalization in order to be superior and compete with other countries' industries. In addition, the government must implement the concept, blueprint, and big plans for industrial revitalization through detailed, measurable and controlled programs. Industrial revitalization requires fiscal incentives for strategic industrial state-owned enterprises (BUMN) (BUMNIS).<sup>33</sup> The factors that

influence the strategic industry include the mastery of technology and a stronger political will and more extras from all stakeholders. Mastery of technology involves human resources, equipment, software, and technology management. Then, industry is generally a long-term activity, while commercialization is a short-term activity. Therefore, industrial activities and commercialization must be in line with following strategic decisions.<sup>34</sup>

Based on the data previously explained, China in the development of the space industry was coordinated by a government agency, CASC. China considers the importance of space industrialization and commercialization by making various policies including the formation of high-tech companies of government or state-owned enterprises.<sup>35</sup> Along with globalization, business groups assess that space technology is increasingly important for human civilization. Then began to emerge private high-tech companies. Based on the Beijing-based investment institution Future Aerospace in three years there are already 60 Chinese private companies included in the space industry.<sup>36</sup> These companies include:

<http://www.kemenperin.go.id/artikel/3832/Bangkitkan-BUMN-Strategis>

<sup>34</sup> Nasional, J. Maju Mundur Industri Strategis. Retrieved June 3, 2018, from <http://www.kemenperin.go.id/artikel/4795/Maju-Mundur-Industri-Strategis>

<sup>35</sup> Acuthan, J. P.. China's Outer Space Programme : Diplomacy of Competition or Co-operation? (China Perspectives, 2006) 63.

<sup>35</sup> Chen, S. (2017, June 12). Space the Final Frontier for Chinese Start-ups and Venture Capitalists. South China Morning Post Publishers Ltd. Retrieved from <http://www.scmp.com/news/china/article/1947369/space-final-frontier-chinese-start-ups-and-venture-capitalists>

<sup>36</sup> Yamei, "China Focus: Sunrise for China's Commercial Space Industry?" Xinhuanet.Com. Retrieved from [http://www.xinhuanet.com/english/2018-05/13/c\\_137175948.htm](http://www.xinhuanet.com/english/2018-05/13/c_137175948.htm)

<sup>31</sup> Levi-faur, D. (2018). Friedrich List and the Political Economy of the Nation-State Author ( s ): David Levi-Faur Source: Review of International Political Economy , Vol . 4 , No . 1 ( Spring , 1997 ), pp . 154-178 Stable URL : <http://www.jstor.org/stable/4177218> Friedrich Lis, 4(1), 154–178.

<sup>32</sup> Weiss, L. Government-Business Relations In East Asia: The Changing Basis Of State Capacity. Asian Perspective, 18 (Februari, 1994), 85–118. Retrieved from <http://www.jstor.org/stable/42704048>

<sup>33</sup> Daily, I. Bangkitkan BUMN Strategis. Retrieved June 3, 2018, from

Beidu, OneSpace, LinkSpace, Space Vision, LandSpace and others, because this industry continues to grow. The achievements of these companies have been quite a lot, some examples include: Beijing LandSpace Technology Corporation Limited (LandSpace) was established in 2015 with 200 million Yuan funds, has been able to launch 70 tons of oxygen / methane liquid rockets to put China behind the United States and Russia has been able to do it.<sup>37</sup>

Then, OneSpace which was formed precisely in August 2015 with an investment of 500 million Yuan, developed a rocket engine through factory experiments, its mini rockets capable of gliding with a load of 100 kg. Furthermore, SpaceOK is a company that produces and launches 40 small communication satellites within three years for the development of internet of things and China's Belt Road Initiative. The estimated profit is reached in 2020 of US \$ 485 billion from the global market and US \$ 125.78 billion from the domestic market. In the next decade it is estimated that two-thirds of global satellite demand comes from commercial actors.<sup>38</sup> The Chinese private space industry business group also sought government support. As a result the government issued a policy to support China's private space industry, both subsidized and technical support. In fact, the government also made it a national strategic priority. This is because security issues in this case space and the economy consistently coordinate with the country's domestic priorities.<sup>39</sup>

<sup>37</sup> Curcio, B., & Lan, T. (2018, May 25). Analysis The rise of China's private space industry. Spacenews.Com. Retrieved from <http://spacenews.com/analysis-the-rise-of-chinas-private-space-industry/>

<sup>38</sup> Yamei, "China Focus: Sunrise for China's Commercial Space Industry?"

<sup>39</sup> Jisi, W. China's Search for a Grand Strategy A Rising Great Power Finds Its Way. Foreign Affairs, 90 (February, 2011), 68–79. Retrieved from <http://www.jstor.org/stable/25800458>

CNSA spokesman Li Guoping expressed his hopes for the private space industry program to be in line with the nation's top-level plan. Nation's top-level plan supports the development of space commercialization. First, the government opens a space program for the private sector. Second, the government will also buy services from the private space industry. In fact, highly qualified industries will also receive research funding and company expansion as well as public industries. In the satellite application sector, specifically, it has the support for capital investment from the community. The satellite application starts from satellite communications, remote sensing, to navigation. Meanwhile, in the rocket development sector by private industry, government support at certain levels is obtained. Support will be obtained if research, production and launch are in accordance with state regulations. Therefore, the Chinese government is currently developing guidelines to improve the development of China's private space industry in an orderly manner.<sup>40</sup>

In rapid economic development, China's private business sector has accumulated sufficient know-how technology, research talent, and financial strength to enter the space business.<sup>41</sup> Where, these things are important in the development of China. So with its strategic nature and in accordance with China's vision to become a space faring nation, China's private space industry has the

<sup>40</sup> Yamei. (2018, June 5). China Focus: Sunrise for China's Commercial Space Industry? Xinhuanet.Com. Retrieved from [http://www.xinhuanet.com/english/2018-05/13/c\\_137175948.htm](http://www.xinhuanet.com/english/2018-05/13/c_137175948.htm)

<sup>41</sup> Chen, S. (2017, June 12). Space the Final Frontier for Chinese Start-ups and Venture Capitalists. South China Morning Post Publishers Ltd. Retrieved from <http://www.scmp.com/news/china/article/1947369/space-final-frontier-chinese-start-ups-and-venture-capitalists>

support of the government. Thus, the Chinese space industry both public and private get the same support from the Chinese government. However, government support for the private sector was obtained by private groups after submitting proposals to the National People's Congress. Thus, state relations and business groups in China's private space industry were initiated by business groups first.

According to governed interdependence<sup>42</sup>; bureaucracy, country-industry networks, industrial organizations are interconnected and support the capacity of the state. The capacity of the country through macro policies and education policies can produce strategic industrial policies. Strategic industrial policy can create a system of public and private institutions that coordinate investment and increase innovation. The results of this series of processes are competitive industries in international dynamics. This has an important role in achieving economic security in the international system (Dent, 2003).<sup>43</sup> In governed interdependence, there are several types based on initiation of cooperation. First, disciplined support. Second, public risk absorption. Third, private sector initiative in public policies. Fourth, public-private innovation alliances.

Based on the data, China's private space industry has a pattern of relations between the state and business groups as well as the private sector initiative in public policies. This pattern is characterized by private initiatives in policy making. The

data shows that President Beidu submitted a proposal to the National People Congress in 2014 which ultimately made the Chinese Government make a policy of supporting the private space industry (Chen, 2017).<sup>44</sup> In this relationship pattern there is also a coordination strategy. The coordination strategy allows the country to carry out several interventions in an effort to avoid a crisis. Considering the crisis is vulnerable to occur in cooperation that does not have the capacity of the state as a supervisor. This pattern can arise because the country is weak and business dominates. Thus, in the case of China's private space industry, this pattern appears anomalously. China is a strong country and business groups are new industries so they are still weak.

## Conclusion

The conclusion that can be drawn from the discussion above related to the relationship of the state and business groups in the development of the private space industry are a mutually supportive relationship. The cooperative relationship occurs with business groups as pioneers, but the state remains as the main actor by coordinating and supervising cooperation to be effective. When linked to the theoretical basis that the author uses, this paper supports the concept of governed interdependence in which there is a bureaucratic relationship, a state-industrial network of industrial organizations that support state capacity then produce strategic industrial policies that increase innovation so that it becomes a competitive industry. However, in this paper the authors find that this pattern can also arise in strong and weak business countries. This is driven

<sup>42</sup> Weiss, L. Governed Interdependence: Rethinking the Government-Business Relationship in East Asia. *The Pacific Review*, 8 (April, 1995), 589–616.

<sup>43</sup> Dent, C. M. (2003). *Transnational Capital, The State and Foreign Economic Policy: Singapore, South Korea and Taiwan. Review of International Political Economy*, 10(2), 246–277.  
<https://doi.org/10.1080/0969229032000063225>

<sup>44</sup> Chen, S. (2017, June 12). Space the Final Frontier for Chinese Start-ups and Venture Capitalists. *South China Morning Post Publishers Ltd*. Retrieved from <http://www.scmp.com/news/china/article/1947369/space-final-frontier-chinese-start-ups-and-venture-capitalists>

by a strategic capacity industry that supports national strategies.

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